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ABSTRACT

The author concludes that there is no convincing evidence of differential occupational returns to education, except for effects of race and farm background. There is an interaction effect of fathers' occupational status, as well as race, with the returns to work experience in an equation for income. Findings are either negative or inconclusive between socioeconomic background and education among urban white men. In this major segment of the population, the benefits of education appear to go to those who have it, regardless of their social origins. (DM)

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SOCIOECONOMIC BACKGROUND AND RETURNS TO EDUCATION

Robert M. Hauser

Working Paper 72-31

November, 1972

Remarks prepared for a conference of the Panel on the Benefits of Higher Education, Board on Human Resources, National Academy of Sciences-National Research Council, Woodshole, Massachusetts, July 17, 1972. Research reported herein was carried out with support from the National Science Foundation (GI-31604X), National Institutes of Health, U. S. Public Health Service (M-6275), and by the Social and Rehabilitation Service, U. S. Department of Health, Education and Welfare (CRD-314). Computations were carried out at the University of Wisconsin, Madison Academic Computing Center and the Center for Demography and Ecology with the assistance of Harry P. Travis, Victor Jesudason and Richard Wanner. William M. Mason and William H. Sewell contributed to my thinking on this topic.

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ERRATA

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Robert M. Hauser

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Featherman, David L. and Robert M. Hauser

1972 "Design for a Replicated Study of Social Mobility in the United States," Working Paper 72-6, Center for Demography and Ecology, University of Wisconsin, Madison. To be published in the Proceedings of the Russell Sage Foundation Conference on Social Indicator Models, edited by K. C. Land and S. Spilerman.

Differential returns to education

Beyond responding as a discussant of Solmon's paper I wish to report some data on one aspect of the question posed here this morning, namely, "Are there differential returns to education by socioeconomic background?" I thought I might use this as an excuse to acquaint you with what--to some--are unfamiliar bodies of data (see Juster, 1972)--and also I have done it with the hope of shedding some light on a neglected topic.

Our analyses are based on data from Sewell's panel of Wisconsin high school graduates, to which I have already referred, and on data from the March 1962 Current Population Survey Supplement, "Occupational Changes in a Generation." In response to the announced theme of this session we have focused on the very narrow issue of differential returns to education by socioeconomic background. From our point of view this is not the only, nor even the most informative way of interpreting the relations among socioeconomic background, schooling and adult achievements. Rather than focusing on a single interaction in a single equation model, published analyses of these data have used linear, additive structural equation models to render a recursive interpretation of processes linking background, schooling, and achievement (Blau and Duncan, 1967; Duncan, 1968a; Duncan, Featherman and Duncan, 1972; Sewell, Haller and Portes, 1969; Sewell, Haller and Ohlendorf, 1970; Hauser, Lutterman and Sewell, 1971; Hauser, 1972; Sewell and Hauser, 1972).

Why should we think there are differential returns to education in the labor market to persons of differing social background? That is,

why should persons of high status origins obtain a greater increment in occupational prestige or earnings from each additional year of schooling than a person of humble origins? We might look for an answer in the functioning of schools or in the functioning of the labor market.

There could be differences in the quality of schooling between persons of disparate origin. For example, persons of lowly origin are less likely than those more favorably endowed to attend schools of reputedly high quality at the elementary, secondary or tertiary level (Coleman and others, 1966; Wilson, 1959; 1963; 1967; Sewell and Armer, 1966; Hauser, 1969; 1971; Karabel and Astin, 1972). From all available evidence we are skeptical of the claim that school quality accounts for much variation in even so narrowly defined an output as academic achievement (Hauser, 1969; 1971), let alone post-schooling economic rewards. There are also well-known differentials in post-secondary areas of specialization by social origin, and there may be varying rates of return to investment in these alternative academic or vocational specialties. A related suggestion which applies with force mainly to intercohort comparisons of at least 30 years duration, is that social origins--and especially race and farm origin--are related to the number of days in the school year. For example, mean school days attended per pupil in the United States rose from 99 to 160 between 1900 and 1960 (B. Duncan, 1968:608). Finally, students with favorable social origins may have resources, say in the form of higher academic ability, more motivation, or greater social support by parents, teachers and peers, which permit them to profit more from the experience of schooling.

In the labor market the effects of reputational quality of schools on job placement and income, combined with the differential allocation

of students to schools by origins, might yield greater returns to schooling for those with favorable origins. This seems a more plausible interpretation of measurable effects of school quality than any differences in what goes on in school.

The best-known source of differential returns to education is overt or covert discrimination in the job market (Duncan, 1968b; Thurow, 1969; Winsborough, 1972) which is generally believed to account for a large share of black-white income differences. It seems doubtful that a similar pattern of overt discrimination could be enacted against whites of lowly origins, once they had achieved a particular level of schooling. At the same time, both blacks and disadvantaged whites may gain less in the job market from any given increment in education because they lack social skills useful in job search or advancement, because they lack interpersonal connections and access to information about economic opportunities, or because they are in inferior geographic locations. Without pretending to have exhausted the theoretical possibilities, we turn to an examination of the data.

The March 1962 Current Population Survey (CPS), the large monthly household survey from which unemployment data are obtained, contained a supplementary questionnaire, "Occupational Changes in a Generation" (OCG), which was left with each sample male aged 20 to 64 in the civilian non-institutional population. The supplement ascertained information about the socioeconomic standing and composition of the respondent's family of orientation and about his own first job after leaving school. Taken in conjunction with the March CPS data, the OCG supplement yielded the first definitive measurements of the intergenerational occupational mobility of men in the United States (Blau and Duncan, 1967). My colleague, David L. Featherman, and I have recently obtained the OCG person tape from the U.S.

Bureau of the Census, and I have prepared a few tabulations which are relevant to the possibility of differential returns to education by socio-economic background.

In Table 1 we present regressions of the status of first job on educational attainment within cells of a classification of men in the

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Table 1 about here

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experienced civilian labor force by age and racial or socioeconomic background. The entries in each cell are the regression coefficients, and the numbers in parenthesis below them are approximate numbers of sample cases. Thus, for all men in the ECLF aged 25-64 one year of education was worth about 3.2 points of occupational status in their first full-time civilian job after leaving school, and that estimate is based on about 15,540 sample cases. Given the CPS sample design, the standard errors of the regression coefficients are slightly larger than they would be under simple random sampling.

Educational attainment is coded in years of school completed, and it represents the entire range of schooling, not merely post-secondary schooling. Status of the first job is coded in the Duncan scale (Reiss, 1961). It is a weighted average of the educational attainment and income of male occupational incumbents reported in the 1950 Census, validated against prestige ratings of occupations obtained in a national survey. Scale values range from 0 to 96; for the current occupations of men mean status is about 45 with a standard deviation of about 25. Occupational prestige ratings have been shown to be largely invariant with respect to method of measurement, the population of raters, and time (Hodge,

Siegel and Rossi, 1964; Hodge, Treiman and Rossi, 1966; Treiman, forthcoming). The classification of men by background comprises 11 categories: blacks, nonblacks of farm origin, and nonblacks of nonfarm origin, classified by ten point intervals on the Duncan index for the occupation held by their father (or other head of household) at the time the respondent was 16 years old.

Looking at the results for men of all ages combined, we find a far lower occupational return to education among blacks (0.872) than in any other group, about a quarter of the rate for all men. This is consistent with virtually all other research on the topic, and it indicates that a simple upgrading of the black education distribution will not suffice to eradicate occupation differentials between blacks and whites. The return to education in the status of the first job is less for nonblacks of farm origin than for any other group of nonblacks, yet it is more than twice as large as the return for blacks. Among nonblack men of nonfarm origin we find a pattern of increasing occupational returns to education as we move from the sons of low status fathers to sons of high status fathers. The correlation between father's status and the occupational return to education is 0.93 over the 9 categories of father's status, and the average increase in the slope is 0.031, that is, an average increase in the occupational return to education of a third of a point in occupational status of the first job for each ten point increase of father's occupational status. This pattern of differential returns is replicated within each cohort, except the occupational returns to nonblacks of farm origin are greater than those to some nonblacks of nonfarm origin in the cohort aged 55-64, and the regression of occupational returns on father's status is not statistically significant in that cohort.

In short the data suggest that a year of education is worth more to the son of a rich man than to the son of a poor man in the status of his first job. Further, the social handicap imposed by rural upbringing or by being black is greater than that born by even the lowliest nonblack of urban origin. If this were really the case, it would give a rational basis for the earlier school-leaving of men with unfavorable social origins. However, some alternative explanations come readily to mind.

First, there is some evidence that ability interacts with educational attainment in the determination of earnings (Griliches, 1970; Hause, 1971: 1972), so perhaps it also does in the determination of occupational status. To the extent that father's occupational status is correlated with ability [r = 0.212 among male high school seniors in the Wisconsin panel (Hauser, 1972:165)], and ability interacts with educational attainment, we cannot attribute the observed interactions to the effect of socio-economic origins per se. This line of argument is tenuous enough so we are not inclined to give it much weight, but since we have no ability measure in this sample, we cannot dismiss it as a possibility.

Second, since father's occupational status affects length of schooling, mean educational attainment varies monotonically over the categories of father's occupational status. Thus, it is possible that the observed interactions represent nothing more than a curvilinear relationship between educational attainment and status of the first job, so the varying slopes are approximations to the several segments of a single curve relating occupational status to educational attainment. We are also dubious of this possibility because father's occupational status accounts for less than 20 percent of the variance in son's educational attainment, leaving men with a wide range of educational attainments within each category of father's occupational status.

A third possibility, which we are not prepared to dismiss out of hand, is that the observed interactions are an artifact of reporting errors in first occupation which are correlated with father's occupational status. Duncan, Featherman and Duncan (1972) have noted that many men in the OCG sample reported ages at their first job which are manifestly inconsistent with their educational attainments. Assuming no systematic error in reports of schooling, they suggest that some men reported a job held during an interruption of schooling as their first full-time job after leaving school. The data tend to support this interpretation. For example, mean status of first occupations varies directly with age at first job within strata of educational attainment, so the occupational status of a college graduate reporting a first job at age 19 is closer to that of a high school graduate with a first job at age 19 than to that of a college graduate with a first job at a later age. Moreover, the social origins of men who reported inconsistently low ages at first job, relative to their eventual schooling, were poorer than those of men who entered the labor force later with the same schooling. Thus, we are suggesting that the lower returns to education of men with unfavorable origins may be based on disproportionate reports by them of low-status first jobs held before they completed their schooling.

Comparisons among the columns of Table 1 permit intercohort (historical) comparisons because the first job occurs at a more or less fixed point in the life-cycle. In every background category we find larger coefficients for the youngest cohort (aged 25-34) than for the oldest cohort (aged 55-64), but the tendency is not consistent across all of the cohorts in several of the background categories. Thus, we find some

tendency for the occupational value of education to have increased over time, but the pattern is not consistent enough to warrant a firm conclusion.

Rather than pursuing the analysis of first occupations, we shall take up other measures of social achievement whose temporal standing relative to school-leaving is not problematic. In Table 2 we present

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Table 2 about here

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regressions of the status of 1962 occupations on educational attainment within cells of the classification employed in Table 1. Again, we find occupational returns to education which are lower for nonblacks of farm origin than for nonblacks of nonfarm origin and lower for blacks than for any category of nonblacks. In general these observations hold for the four cohorts as for the total sample. However, among nonblack nonfarm men the pattern of interactions with father's occupational status is neither as strong nor as consistent as in the case of first occupations. For men at all ages combined the correlation between father's status and the occupational return to education is 0.88, but the regression coefficient is only 0.009, which is less than a third of that calculated for first jobs. Moreover, there are significant regressions of occupational returns on father's occupational status in only two cohorts, those aged 25-34 and 45-54. Had we found a consistent pattern of smaller interactions as we moved from younger to older men, we could reconcile it with the results of Table 1 on the argument that the advantages or disadvantages imposed by one's origins tend to be dissipated over the life-cycle. This argument rests on a synthetic cohort interpretation of the

column headings in Table 2, where they are taken to represent age, rather than period of birth or of entry into the labor force. However, because the strength of the education by origin status interactions does not vary monotonically across cohorts, the interpretation of that variation, if it be real, must be historical in character. Such an interpretation is not obvious to me, but perhaps it will be to others. In any event the findings about effects of educational attainment on the status of 1962 occupations do not indicate a clear or strong pattern of variation in returns to education by social background, except in regard to race and farm origins.

In Table 3 we present an array of regressions of 1961 income (ln) on educational attainment. These may be of greater interest to economists than the preceding tabulations. For all men we find that the return to an additional year of schooling is about nine percent, an estimate which is consistent with those found in the economic literature. We do not find a clear or consistent pattern of interactions of socioeconomic background with the economic returns to education, not even with regard to race and farm origin. In no cohort is there a significant regression of the rate of return to education on the occupational status of the fathers of non-black men. Of course, the reader should bear in mind that an absence of

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Table 3 about here

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interactions under this specification (where income is logged) implies a pattern of interactions when income is transformed back into dollars, provided there are differences in mean income between the social background groups. Since there are systematic differences in dollar income between the background categories net of educational attainment, a year of schooling is worth more in dollar income to a man with favorable social origins.

In Table 4 we present regressions of 1961 income on educational attainment and work experience using a functional form suggested by Mincer (1970). Since educational attainment and work experience are negatively correlated, while each is a form of investment in human capital and leads directly to higher income, the effect of years of schooling and work experience are each understated unless both are entered in the equation for income. Further, since we expect the incentive to invest in on-the-job training to decrease as the number of future years in the labor force decreases, we enter a quadratic term in labor force experience, which we expect to take a negative sign when work experience is also in the equation. We define work experience as the difference

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Table 4 about here

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between age in 1962 and age at first full-time civilian job, which may be in error in some cases for the reasons noted earlier. Since the results pertain to men of differing ages in 1962, rather than to a single cohort of men, the results are subject to error insofar as the true equations differ between cohorts.

As expected, the rates of return to schooling in Table 4 are higher in each subgroup than the corresponding entries in Table 3. Also, the shape of the income-experience curves has the expected form. The rate of return to schooling for blacks is lower than that for nonblacks of farm origin, and it is lower than the rate of return to education for all but one category of nonblacks of nonfarm origin. However, there is no apparent difference in the rates of return between those of farm and nonfarm origin, and there are no differences by father's occupational status among nonblacks of nonfarm origin.

Figure 1 about here

The most interesting aspect of the results in Table 4 is the pattern of interactions of father's occupational status with the effects of work experience on income. Both the first and second order coefficients of work experience vary directly in absolute value with father's occupational status among nonblacks of nonfarm origin, and the coefficients are lower in absolute value for blacks than for nonblacks of farm or nonfarm origin. These findings are illustrated in Figure 1, where we show estimated experience-income profiles of high school graduates by social background. The horizontal axis represents work experience, and the vertical axis represents increments in current income (ln) over income at entry to the labor force. We have equated initial incomes, so the differences in estimated experience-income curves represent only the effects of differential returns to experience net of education. Clearly, the returns to work experience are greater for men with more favorable social origins, and their incomes approach peak levels more rapidly than do those of men with unfavorable circumstances of birth, even where the same level of schooling was achieved. The pattern of differences among social background groups in Figure 1 resembles that which occurs among men with differing levels of educational attainment, and this suggests there is greater post-school investment in human capital by men with more favorable circumstances of birth, irrespective of the level of education attained (Mincer, 1970: 8-14). It remains an open question whether these effects of background are attributable to the confounding of socioeconomic background with ability (which we have not controlled here), to other motivational or

normative aspects of socioeconomic background, or to some direct intervention of ascribed status characteristics in the functioning of the occupational system.

We looked at one other set of data, Sewell's panel of Wisconsin high school graduates of 1957, to see if there were a consistent pattern of interactions between socioeconomic background and the effects of educational attainment on occupation and earnings. Some regression output for one subsample of the Wisconsin panel are shown in Table 5. The subsample consists of male high school graduates who were employed in the civilian labor force and not in school in 1964 and who reported non-zero Social Security earnings in 1967. Thus, the sample is restricted as to age and geographic location, and the education distribution is truncated at both the upper and lower ends relative to the distribution for all men of about the same age. There are few blacks in the State of Wisconsin, so no separate regression was calculated for them in Table 5, but the background categories are otherwise similar to those of the earlier tables. Finally, our measure of remuneration is 1967 Social Security earnings, rather than income, adjusted for those with more than the maximum of covered earnings and for multiple employment.

Table 5 about here

Looking down the columns of Table 5, we find no tendency for the occupational or remunerative returns to education to vary with socioeconomic origin. We have estimated other occupation and earnings functions for the groups in the table, but no systematic variation in the effect of education occurs. Taking into account our findings here and

in the OCG sample as well, we conclude that there is no convincing evidence of differential occupational returns to education, except for effects of race and, to a lesser degree, of farm background. Except in the case of race, there are no systematic differences by background in monetary rates of return to education, although there very probably are such differences in dollar returns to schooling. We do find an interaction effect of father's occupational status, as well as race, with the returns to work experience in an equation for income, such that the experience-income profiles of men with higher status backgrounds display a more rapid rise of incomes to (higher) peak levels. While this last point deserves further exploration, our findings are either negative or inconclusive with regard to interactions between socioeconomic background and education among white men with urban origins. In this major segment of the population the benefits of education appear to go to those who have it, regardless of their social origins.

FOOTNOTES

*Remarks prepared for a conference of the Panel on the Benefits of Higher Education, Board on Human Resources, National Academy of Sciences-National Research Council, Woodshole, Massachusetts, July 17, 1972. Research reported herein was carried out with support from the National Science Foundation (GI-31604X), National Institutes of Health, U. S. Public Health Service (M-6275), and by the Social and Rehabilitation Service, U. S. Department of Health, Education and Welfare (CRD-314). Computations were carried out at the University of Wisconsin, Madison Academic Computing Center and the Center for Demography and Ecology with the assistance of Harry P. Travis, Victor Jesudason and Richard Wanner. William M. Mason and William H. Sewell contributed to my thinking on this topic.

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Table 1.--Regression of status of first occupation on educational attainment by father's occupational status, color, and farm background by age: U.S. men 25-64 years old in the experienced civilian labor force: March 1962

Color, father's occupation and farm background	Age				
	25-64	25-34	35-44	45-54	55-64
All men	3.199	4.113	3.089	3.103	2.921
	(15,540)	(4110)	(4630)	(4060)	(2730)
Black	.872	1.747	.656	.840	.378
	(1360)	(390)	(410)	(340)	(210)
Nonblack, farm	1.986	2.619	1.625	1.874	2.235
	(4170)	(800)	(1190)	(1200)	(980)
Nonblack, nonfarm: father's occupational status:					
0-9	2.671	3.309	2.466	2.235	2.920
	(1350)	(350)	(400)	(390)	(220)
10-19	2.647	3.279	2.994	2.367	2.131
	(2420)	(710)	(720)	(610)	(370)
20-29	2.815	2.985	3.606	3.117	2.720
	(1090)	(320)	(330)	(280)	(160)
30-39	2.984	4.014	3.140	2.972	2.055
	(1450)	(420)	(440)	(360)	(240)
40-49	3.869	4.894	3.158	3.885	3.839
	(1110)	(370)	(310)	(260)	(160)
50-59	3.695	4.762	2.972	4.240	3.488
	(900)	(250)	(270)	(250)	(130)
60-69	4.480	5.478	4.800	3.618	3.295
	(800)	(250)	(270)	(180)	(110)
70-79	5.131	5.816	5.532	5.038	4.002
	(500)	(150)	(170)	(90)	(80)
80-96	4.317	6.185	4.578	5.210	2.882
	(370)	(110)	(100)	(90)	(60)

Source: 1962 OCG Survey. Figures in parentheses are approximate numbers of sample cases on which regression coefficients are based.

Table 2.--Regression of status of 1962 occupation on educational attainment by father's occupational status, color, and farm background by age: U.S. men 25-64 years old in the experienced civilian labor force: March 1962

Color, father's occupation and farm background	Age				
	25-64	25-34	35-44	45-54	55-64
All men	4.187	5.145	4.490	4.025	3.662
Black	1.571	2.377	1.601	1.356	1.457
Nonblack, farm	2.988	3.394	3.270	3.037	2.836
Nonblack, nonfarm: father's occupational status:					
0-9	3.675	4.526	4.260	3.289	2.958
10-19	4.020	4.749	4.440	3.845	3.577
20-29	4.247	5.194	5.448	3.930	3.728
30-39	4.087	5.372	4.908	3.906	2.775
40-49	4.318	5.529	4.600	3.765	3.267
50-59	4.254	5.337	4.350	4.082	3.518
60-69	4.308	5.340	4.057	4.206	3.288
70-79	4.475	5.770	4.590	4.752	3.889
80-96	4.714	6.450	4.398	5.101	3.236

Source: 1962 OCG Survey.

Table 3.--Regression of 1961 income (ln) on educational attainment by father's occupational status, color, and farm background by age: U.S. men 25-64 years old in the experienced civilian labor force: March 1962

Color, father's occupation and farm background	Age				
	25-64	25-34	35-44	45-54	55-64
All men	.08798	.08289	.09763	.09429	.09602
Black	.04642	.05112	.05572	.05738	.07299
Nonblack, farm	.07419	.08395	.07200	.07622	.07488
Nonblack, nonfarm: father's occupational status:					
0-9	.07110	.06581	.07504	.03394	.15708
10-19	.06638	.05835	.08478	.06788	.07062
20-29	.08013	.01586	.13670	.11462	.07523
30-39	.04255	.04094	.05137	.05991	.05842
40-49	.05202	.07476	.04168	.03919	.07723
50-59	.06141	.00709	.07113	.08810	.09035
60-69	.09938	.10320	.09125	.10097	.10689
70-79	.04403	.03330	.08609	.05487	-.00889
80-96	.07108	.13949	-.00799	.11188	.08642

Source: 1962 OCG Survey.

Table 4.--Regression of 1961 income (ln) on educational attainment, work experience and square of work experience by father's occupational status, color and farm background: U.S. men 25-64 years old in the experienced civilian labor force: March 1962

Color, father's occupation and farm background	a	b_1	b_2	b_3	R^2
All men	6.689	.0976 (.0035)	.03751 (.00435)	-.00058 (.00009)	.1096
Black	6.636	.0631 (.0124)	.02229 (.01600)	-.00016 (.00030)	.0452
Nonblack, farm	6.919	.0769 (.0076)	.02929 (.00988)	-.00048 (.00018)	.0589
Nonblack, nonfarm: father's occupational status:					
0-9	7.004	.0813 (.0115)	.02579 (.01393)	-.00035 (.00025)	.0821
10-19	7.175	.0707 (.0097)	.03313 (.01066)	-.00058 (.00021)	.0536
20-29	6.931	.0916 (.0140)	.03237 (.01501)	-.00046 (.00028)	.0852
30-39	7.299	.0490 (.0143)	.04875 (.01506)	-.00090 (.00030)	.0307
40-49	7.048	.0642 (.0138)	.04663 (.01455)	-.00071 (.00030)	.0599
50-59	7.131	.0716 (.0106)	.04835 (.01158)	-.00083 (.00023)	.1220
60-69	6.615	.1119 (.0150)	.04753 (.01550)	-.00076 (.00032)	.1376
70-79	7.198	.0626 (.0196)	.06033 (.01591)	-.00106 (.00032)	.0877
80-96	6.562	.0923 (.0394)	.05519 (.03454)	-.00083 (.00078)	.0545

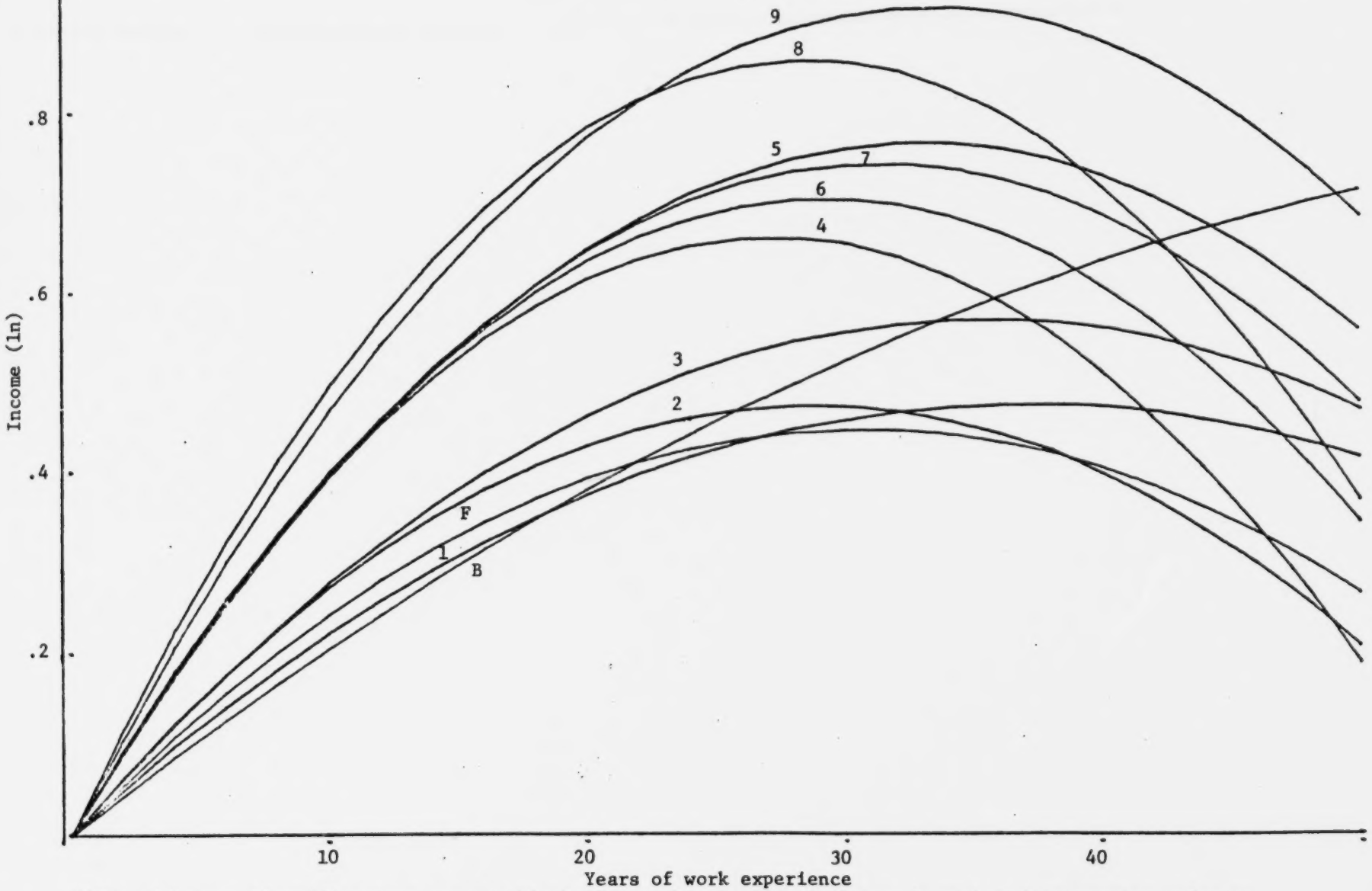
Source: 1962 OCG Survey. X_1=educational attainment; X_2=work experience; $X_3=(X_2)^2$. Numbers in parenthesis are approximate standard errors.

Table 5.--Regressions of 1964 occupational status and 1967 earnings (ln) on educational attainment by farm background and father's occupational status: male Wisconsin high school graduates of 1957 employed in the civilian labor force and not in school in 1964

Farm background and father's occupation	Dependent variable		
	Status of 1964 job	Earnings (ln) in 1967	N
Total	9.098 (.215)	.0360 (.0070)	2777
Farm	9.659 (.480)	.0371 (.0204)	708
Nonfarm: father's occupational status:			
0-9	10.31 (.79)	-.0263 (.0239)	353
10-19	8.881 (.546)	.0241 (.0182)	480
20-29	9.795 (.942)	.0329 (.0215)	206
30-39	8.368 (.681)	.0113 (.0171)	239
40-49	7.642 (.548)	.0482 (.0144)	376
50-59	7.002 (1.033)	.0568 (.0381)	96
60-69	8.537 (.725)	.0555 (.0190)	162
70-79	6.814 (1.123)	.0277 (.0226)	81
80-96	7.714 (1.140)	-.0340 (.0439)	76

Source: W. H. Sewell's Wisconsin panel data. Numbers in parentheses are standard errors.

Figure 1.--Income-experience profiles net of education by social background: U.S. men in the experienced civilian labor force, March 1962



NOTE: Subgroup identifications are B = black; F = nonblack, farm background; numbered categories refer to successive 10-point intervals on the Duncan scale for father's occupation among nonfarm, nonblack men.